

Remarks / Discussion of Issues

In the non-final Office Action dated September 29, 2010, it is noted that claims 1-37 are pending and stand rejected. Claims 1 and 31 are independent claims. Claims 23 and 37 have been amended for typographical errors.

Specification

At the bottom of page 5, with respect to the request for including section headings for the specification, the Office Action recites, "[t]he guidelines and headings are preferred and recommended to outline the various sections of the specifications. The guidelines and headings are recommended, however as the applicant argued are not required." Emphasis added.

However, at the top of page 6, the Office Action recites, "[a]ppropriate correction is required." Emphasis added.

Applicants presume that the statement on page 6 regarding the alleged requirement to include subject headings in the specification is a mistake. In an effort to provide greater clarity, Applicants respectfully request the withdrawal of this statement at the top of page 6 regarding an alleged requirement to provide headings for the specification.

Rejections under 35 U.S.C. §102

Claims 1-3, 5-7, 9-11, 21-22, and 26-33 stand rejected under 35 U.S.C. §102(e) as allegedly anticipated by US Patent Publication 2003/0169697 to Suzuki et al. ("Suzuki").

Applicants' claim 1 recites:

A method for a distributed beaconing period protocol for a device in an ad hoc network of devices, comprising the device performing:

dividing a medium access time into a sequence of at least one contiguous superframe beginning at a Beacon Period Start Time;

partitioning the superframe into a slotted Beaconing Period (BP), having a plurality of contiguous beacon slots, followed by a data transfer period; and

associating with at least one of an existing ad hoc network BP or creating a new ad hoc network BP as the BP of the device. Emphasis added.

In the Response to Arguments section on page 3, the Office Action agrees that Suzuki, Fig. 4, does not disclose or teach the features of partitioning the superframe into a slotted Beaconsing Period (BP), having a plurality of contiguous beacon slots, followed by a data transfer period.

However, on page 4, the Office Action now points to Suzuki, Fig. 17 as allegedly disclosing a radio communication system having a parent daughter relationship between piconets (ad hoc network). The Office Action alleges that Suzuki at Fig. 17 discloses that a parent superframe has slotted contiguous beacon slots followed by a data transfer period and a TDMA frame having a beacon, a contention access period, a contention free period, as well as disclosing each user being a controller and having daughter networks with the same format. The Office Action also alleges that Suzuki discloses a parent network having a TDMA frame having a beacon and multiple users and a contention partition, wherein each user is a daughter network having its own beacon, users and contention partition. Therefore, the Office Action concludes that Fig. 17 of Suzuki teaches an ad hoc network that partitions a superframe into a slotted beaconsing period having a plurality of contiguous beacon slots.

For the following reasons, Applicants respectfully disagree that Suzuki shows or even suggests at least the above emphasized features of claim 1.

Suzuki Fig. 17 illustrates a superframe with, in this example, 3 beacon slots. Each beacon slot is separated by a contention access period (CAP) and a contention free period (CFP). Therefore, Suzuki's beacon slots are not contiguous.

Furthermore, each of the beacon slots of Suzuki Fig. 17, in which the Examiner apparently interprets to be equivalent to a slotted Beaconsing Period (BP) of Applicants' claim 1, do not have a plurality of contiguous beacon slots, as required by claim 1.

For example, Suzuki, Fig. 17 and paragraphs [205]-[207], discloses a parent piconet which allegedly sends a beacon signal to a daughter piconet. The daughter network responds with a time slot assignment request. If the parent piconet receives the time slot assignment request, the parent piconet transmits a next parent piconet

beacon signal including unassigned area information.

In other words, Suzuki discloses a beacon signal which allegedly may include unassigned area information. Thus, the content of the information included in Suzuki's beacon slot may change depending on the circumstance. However, Suzuki's beacon slot does not have a plurality of contiguous beacon slots.

Nowhere does Suzuki disclose or even suggest partitioning the superframe into a slotted Beaconsing Period BP, having a plurality of contiguous beacon slots, followed by a data transfer period, as set forth in claim 1. Accordingly, Applicants respectfully maintain that the rejection of claim 1 under 35 U.S.C. 102(e) over Suzuki is unfounded and should be withdrawn.

Independent claim 31 is different from claim 1 and requires consideration on its own merit. For example, claim 31 is directed toward a distributed beaconsing apparatus for an ad hoc network device, while claim 1 is directed toward a method for a distributed beaconsing protocol for a device in an ad hoc network of devices. Claim 31 includes, for example, the features of:

divide the medium into a sequence of superframes comprising at least one slotted beaconsing period (BP) and including a certain number of beacon slots each having a pre-determined beacon slot length, said slotted BP being followed by a data transfer period.

The Office Action uses substantially the same arguments as set forth with regard to claim 1, alleging that claim 31 is anticipated by Suzuki under 35 U.S.C. §102.

Applicants apply the above arguments for claim 1 to claim 31. Accordingly, the Applicants respectfully submit that claim 31 is in condition for allowance and request the withdrawal of the rejection of claim 31.

Claims 2, 3, 5-7, 9-11, 21, 22, 26-30, 32, and 33 ultimately depend from and incorporate all the features of either allowable independent claims 1 or 31. Furthermore, each dependent claim includes additional distinguishing features. For each dependent claim, Applicants apply the above arguments from claim 1 to each of dependent claims 2, 3, 5-7, 9-11, 21, 22, 26-30, 32, and 33. Thus, Applicants respectfully assert that these dependent claims are allowable at least by virtue of their dependency on an allowable parent claim.

Applicants respectfully assert that the rejection of claims 1-3, 5-7, 9-11, 21-22, and 26-33 under 35 U.S.C. §102(e) has been traversed and should be withdrawn.

Rejections under 35 U.S.C. §103

Claims 4, 8, 12-20, 23-25, and 34-37 stand rejected as allegedly unpatentable over Suzuki in view of US Patent Publication 2003/0012176 to Kondylis et al. ("Kondylis"). These rejections are respectfully traversed.

Each of dependent claims 4, 8, 12-20, 23-25, and 34-37 depends from an allowable independent base claim and inherits all of the respective features of the independent base claim. The added reference Kondylis does not cure the deficiencies as noted with respect to the independent claim. Furthermore, the Office Action does not rely on Kondylis for teaching the features of partitioning the superframe into a slotted Beaconing Period (BP), having a plurality of contiguous beacon slots, followed by a data transfer period. Thus, each of dependent claims 4, 8, 12-20, 23-25, and 34-37 is patentable for at least the same reasons discussed above with respect to its independent base claim, with each dependent claim containing further distinguishing patentable features.

It is respectfully submitted that the rejections of claims 4, 8, 12-20, 23-25, and 34-37 under 35 U.S.C. § 103(a) have been overcome.

Conclusion

An earnest effort has been made to be fully responsive to the Examiner's correspondence and advance the prosecution of this case. In view of the foregoing, it is respectfully submitted that all of the claims pending in this patent application are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully solicited.

In the event there are any errors with respect to the fees for this response or any other papers related to this response, the Director is hereby given permission to charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account No. 14-1270.

Respectfully submitted,

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